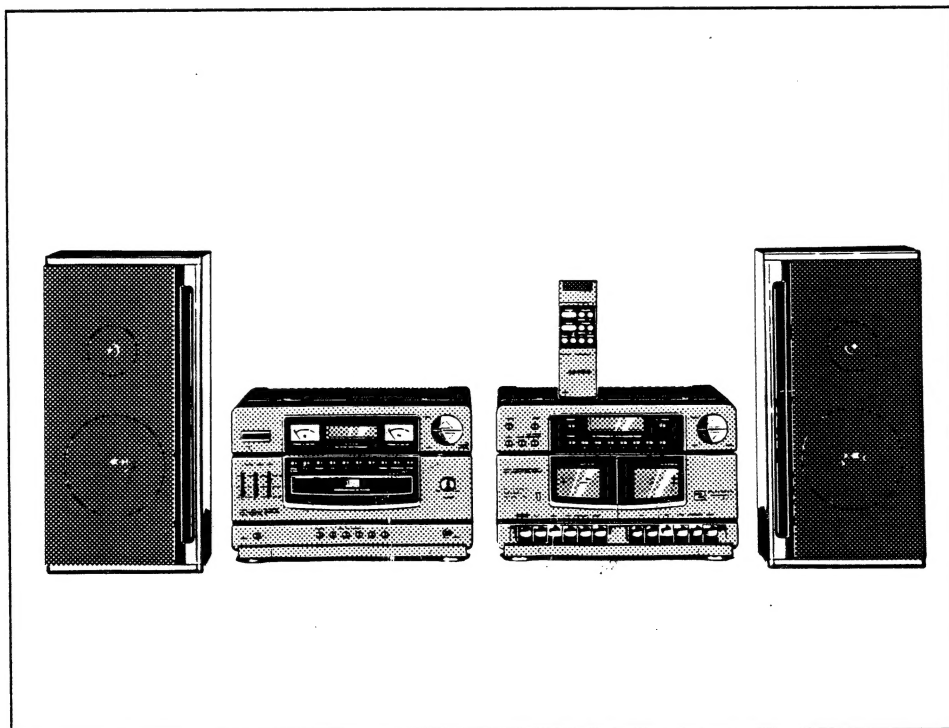


*SuperTech*  
SOUND & VISION

# SERVICE MANUAL

MODEL : PP-2280



\*\*\*\* GENERAL SPECIFICATIONS \*\*\*\*

MODEL NO.:RG-2280

\* POWER SOURCE ----- AC 220V 50  
 \* OUTPUT POWER ----- 10W/CH. THD.1  
 \* SPEAKER IMPEDANCE ----- 8 Ω  
 \* POWER CONSUMPTION ----- 80W M.  
 \* FREQUENCY RESPONSE ----- 30Hz....18K  
 \* REMOTE CONTROL ----- 10 FUNCTION  
 \* UNIT ONE ASS'Y ----- 3BAND EQ + CD + AMP. SYST  
 \* UNIT TWO ASS'Y -----DIGITAL TUNER FM/MW/LW  
 DOUBLE CASSETTE PLAYER SYST  
 \* UNIT DIMENSIONS (WxHxD)mm ----- (280x180x270)  
 \* SPEAKER DIMENSIONS (WxHxD)mm ----- (360x180x135)

\*\*\*\* RADIO SECTION SPECIFICATIONS \*\*\*\*

\* TUNING RANGE (DIGITAL) ----- FM. 87.5---108M  
 MW. 522---1620K  
 LW. 153---281 K  
 \* INTERMEDIATE FREQUENCY ----- FM. 10.7M  
 AM. 450KH  
 \* USABLE SENSITIVITY ----- FM: 20uV AT 30db S  
 MW: 1000uV 20db S  
 LW: 1.58mV "  
 \* AUDIO FIDELITY(-6db) ----- AM: 60Hz....2.5K  
 FM: 60Hz....14KH  
 \* FM STEREO SEPARATION ----- 26

\*\*\*\* TAPE SECTION SPECIFICATIONS \*\*\*\*

\* TAPE SPEED -----4.75cm/s  
 \* WOW & FLUTTER (WTD) ----- More than 0.3  
 \* SIGNAL TO NOISE RATIO ----- More than 40d  
 \* SEPARATION ----- More than 35d  
 \* CROSS TALK ----- More than 35d  
 \* AUDIO RESPONSE ----- 60Hz.....10K

\*\*\*\* CD SECTION SEPCIFICATION \*\*\*\*

\* SEPARATION ----- More than 40d  
 \* SIGNAL TO NOISE ----- More than 50d  
 \* DISTORTION ----- Less than 2

# ALIGNMENT PROCEDURES

## INSTRUMENT REQUIRED

1. OUTPUT METER (VTVM)
2. IF SWEEP SIGNAL GENERATOR
3. 0-120MHz SIGNAL GENERATOR
4. FM STEREO SIGNAL GENERATOR
5. DISTORTION METER
6. OSCILLOSCOPE
7. DIGITAL DC VOLTMETER

## GENERAL

1. SIGNAL INPUT MUST BE AS LOW AS POSSIBLE TO AVOID OVERLOAD AND CLIPPING. (USE HIGHEST SENSITIVITY OF OUTPUT INDICATOR)
2. VOLUME CONTROL AT STD. POSITION.
3. AM STD. MOD. IS 400Hz AT 30% (AMPLI. MOD.)
4. FM STD MOD. IS 1KHz AT 22.5K (FREQ. MOD.)
5. CONNECT 8 OHM LOAD ACROSS SP. JACK.

## TUNER SECTION

## SETTING

PRESS TUNER & SOURCE BUTTON. PUSH BAND BUTTON SELECTOR LW/MW/FM BAND

| STEP | INSTRUMENT CONNECTION | GEN. FREQ. | RECEP FREQ. | O/P INDICATOR CONNECTION | ADJUSTMENT ADJUST FOR |
|------|-----------------------|------------|-------------|--------------------------|-----------------------|
|------|-----------------------|------------|-------------|--------------------------|-----------------------|

### AM IF

|   |                                |        |        |                                |           |
|---|--------------------------------|--------|--------|--------------------------------|-----------|
| 1 | IF SWEEP SG. TO IC 101 (PIN 1) | 450KHz | 522KHz | IF SWEEP SCOPE C108 (-) & GND. | T101 MAX. |
|---|--------------------------------|--------|--------|--------------------------------|-----------|

### MW TUNING VOLTAGE

|   |                                     |  |       |                               |                   |
|---|-------------------------------------|--|-------|-------------------------------|-------------------|
| 2 | NO SIGNAL                           |  | 1620K | DC VOLTMETER Q201, (C) & GND. | L102 8 V +/-0.10V |
| 3 | NO SIGNAL                           |  | 522K  | SAME AS STEP 2                | CHECK 1.8V        |
| 4 | REPEAT STEP 2 AND STEP 3 ON 2 TIMES |  |       |                               | CHECKING          |

### LW TUNING VOLTAGE

|   |                                     |  |      |                |                   |
|---|-------------------------------------|--|------|----------------|-------------------|
| 5 | NO SIGNAL                           |  | 281K | SAME AS STEP 2 | L101 6.5V +/-0.1V |
| 6 | NO SIGNAL                           |  | 153K | SAME AS STEP 2 | CHECK 1.8V        |
| 7 | REPEAT STEP 5 AND STEP 6 ON 2 TIMES |  |      |                | CHECKING          |

### LW TRACKING

|    |                                     |      |      |                                  |             |
|----|-------------------------------------|------|------|----------------------------------|-------------|
| 8  | AM SIGNAL GEN. LOOP ANT (60)CM      | 164K | 164K | SCOPE & VTVM C123,124 (-) & GND. | L103 MAX.   |
| 9  | SAME AS STEP 8                      | 272K | 272K | SAME AS STEP 8                   | TC101, MAX. |
| 10 | REPEAT STEP 8 AND STEP 9 ON 3 TIMES |      |      |                                  | CHECKING    |

### MW TRACKING

|    |                                       |       |       |                |             |
|----|---------------------------------------|-------|-------|----------------|-------------|
| 11 | SAME AS STEP 8                        | 603K  | 603K  | SAME AS STEP 8 | L103 MAX.   |
| 12 | SAME AS STEP 8                        | 1404K | 1404K | SAME AS STEP 8 | TC102, MAX. |
| 13 | REPEAT STEP 11 AND STEP 12 ON 3 TIMES |       |       |                | CHECKING    |

FM IF

|    |                                 |       |       |                |                       |
|----|---------------------------------|-------|-------|----------------|-----------------------|
| 14 | IF SWEEP SG.TO<br>IC001 (PIN 4) | 10.7M | 87.5M | SAME AS STEP 2 | T001<br>GOOD (S) WAVE |
|----|---------------------------------|-------|-------|----------------|-----------------------|

FM TRACKING

|    |                                       |        |        |                |              |
|----|---------------------------------------|--------|--------|----------------|--------------|
| 15 | FM SIGNAL GEN.<br>TO P001(+)002(-)    | 87.9M  | 87.9M  | SAME AS STEP 8 | L002<br>MAX. |
| 16 | SAME AS STEP15                        | 105.9M | 105.9M | SAME AS STEP 8 | TC001, MAX.  |
| 17 | REPEAT STEP 16 AND STEP 17 ON 3 TIMES |        |        |                | CHECKING     |

FM TUNING VOLTAGE

|    |                                       |  |      |                |                      |
|----|---------------------------------------|--|------|----------------|----------------------|
| 18 | NO SIGNAL                             |  | 108M | SAME AS STEP 2 | L003<br>6 V +/-0.05V |
| 19 | NO SIGNAL                             |  | 87.5 | SAME AS STEP 2 | CHECK 2.1V           |
| 20 | REPEAT STEP 18 AND STEP 19 ON 2 TIMES |  |      |                | CHECKING             |

TAPE SECTION

SETTING

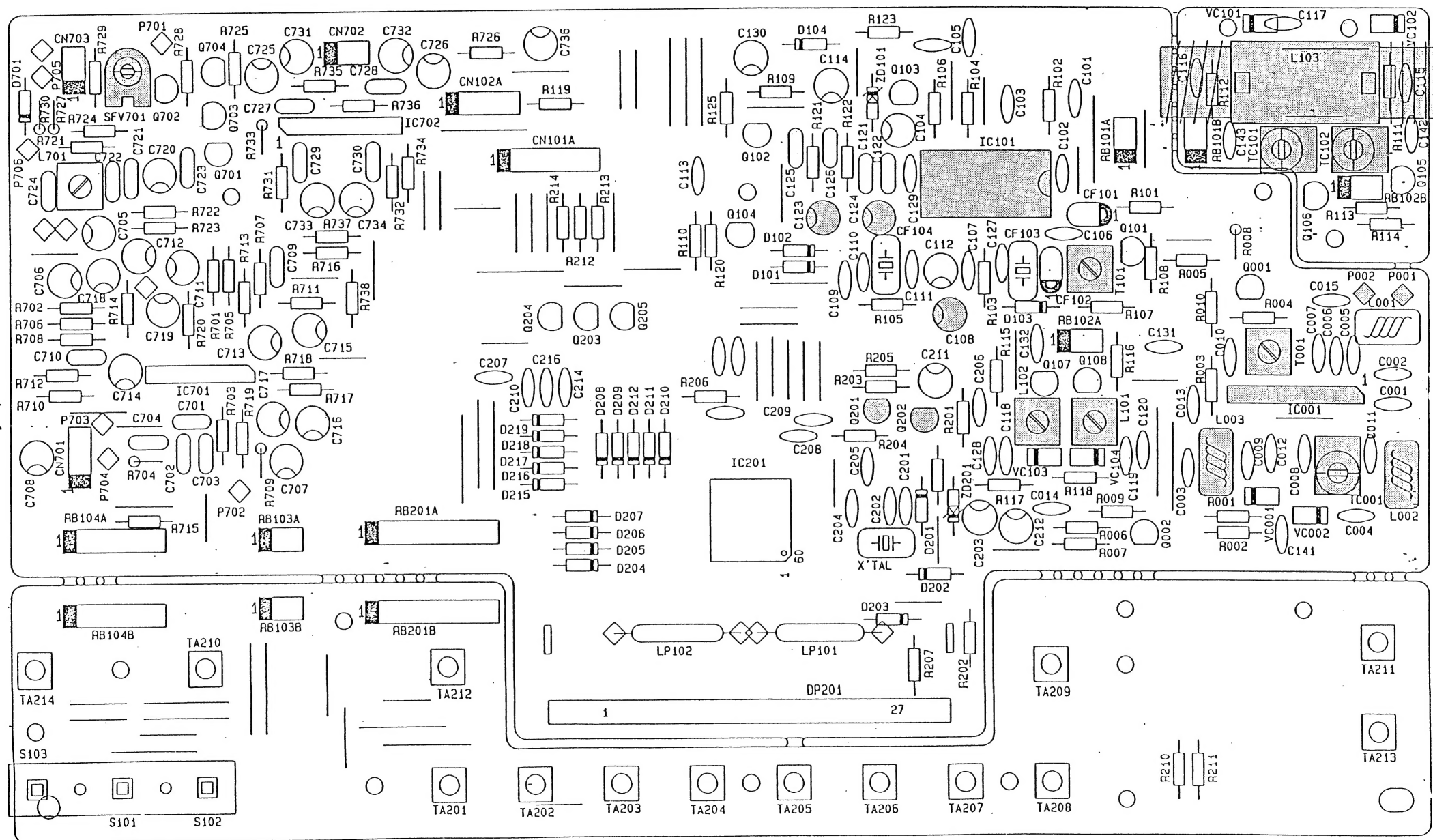
PRESS TAPE & SOUCE BUTTON AND PRESS PLAY BUTTON.....

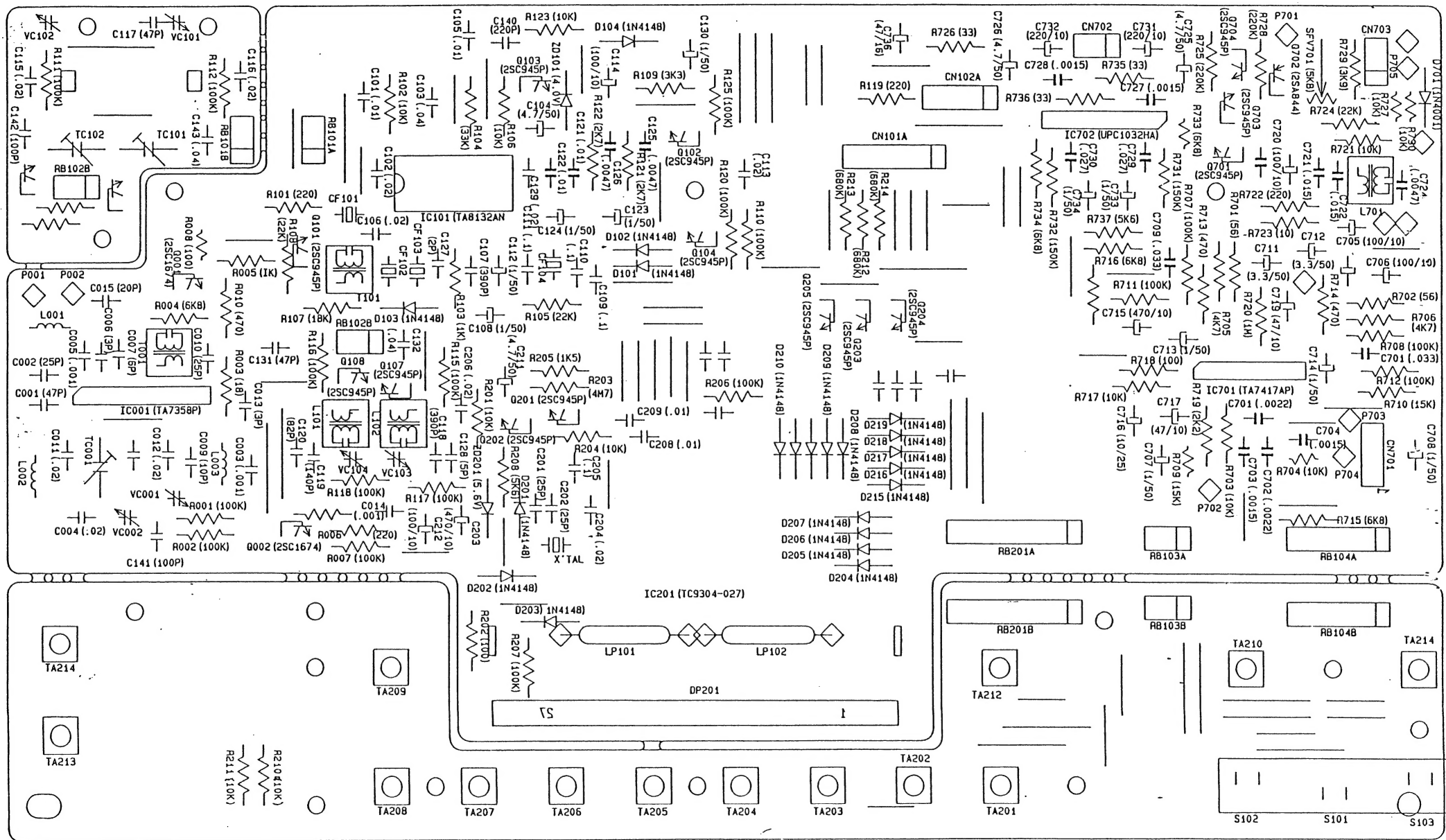
INSTRUMENT REQUIRED

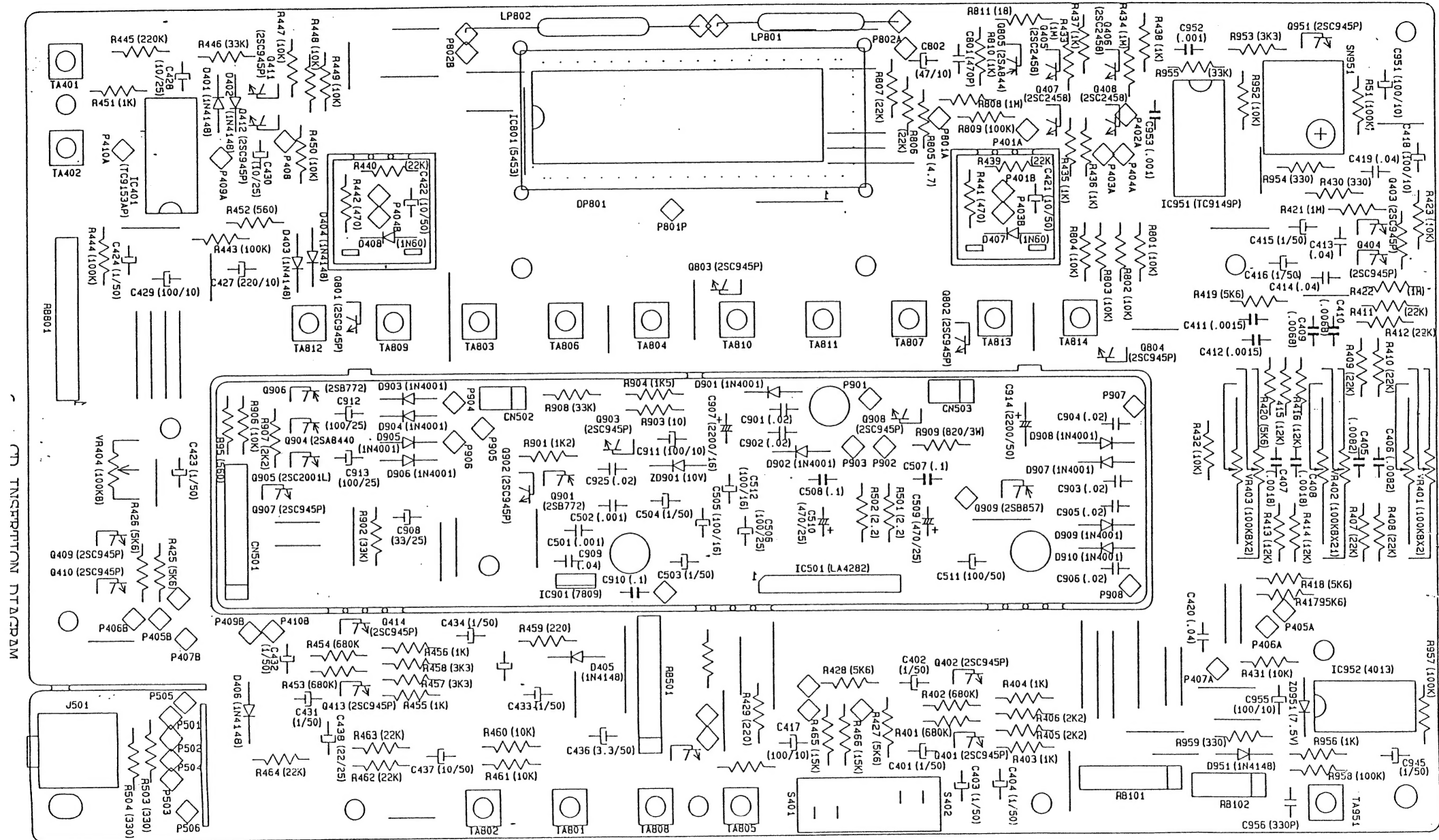
1. DUAL TRACE OSCILLOSCPE.
2. DUAL TRACE AC MILLIVOLT METER.
3. FREQUENCY COUNTER.
4. LOUDSPEAKER 8 OHM

| STEP                 | MEASURING INSTRUMENT<br>ARRANGEMENT  | TEST<br>TAPE    | ADJUSTMENT                    | ADJUST FOR.....                               |
|----------------------|--|-----------------|-------------------------------|---|
| 1   AZIMUTH<br>PHASE | TAKE OUT THE SIGNAL<br>FROM LOUDSPEAKER LOAD<br>NOTE:<br>GRAPHIC EQ. MUST AT<br>CENTER POSITION. | B-113N<br>8 KHz | SCREW AT LEFT<br>SIDE OF HEAD | ADJUST TO MAX.<br>O/P.AND SYNCHRONI<br>PHASE. |
| 2   TAPE<br>SPEED    |  | B-111N<br>3 KHz | SFV701<br>SEMI-FIX 5KB        | 3000 +/- 3%                                   |





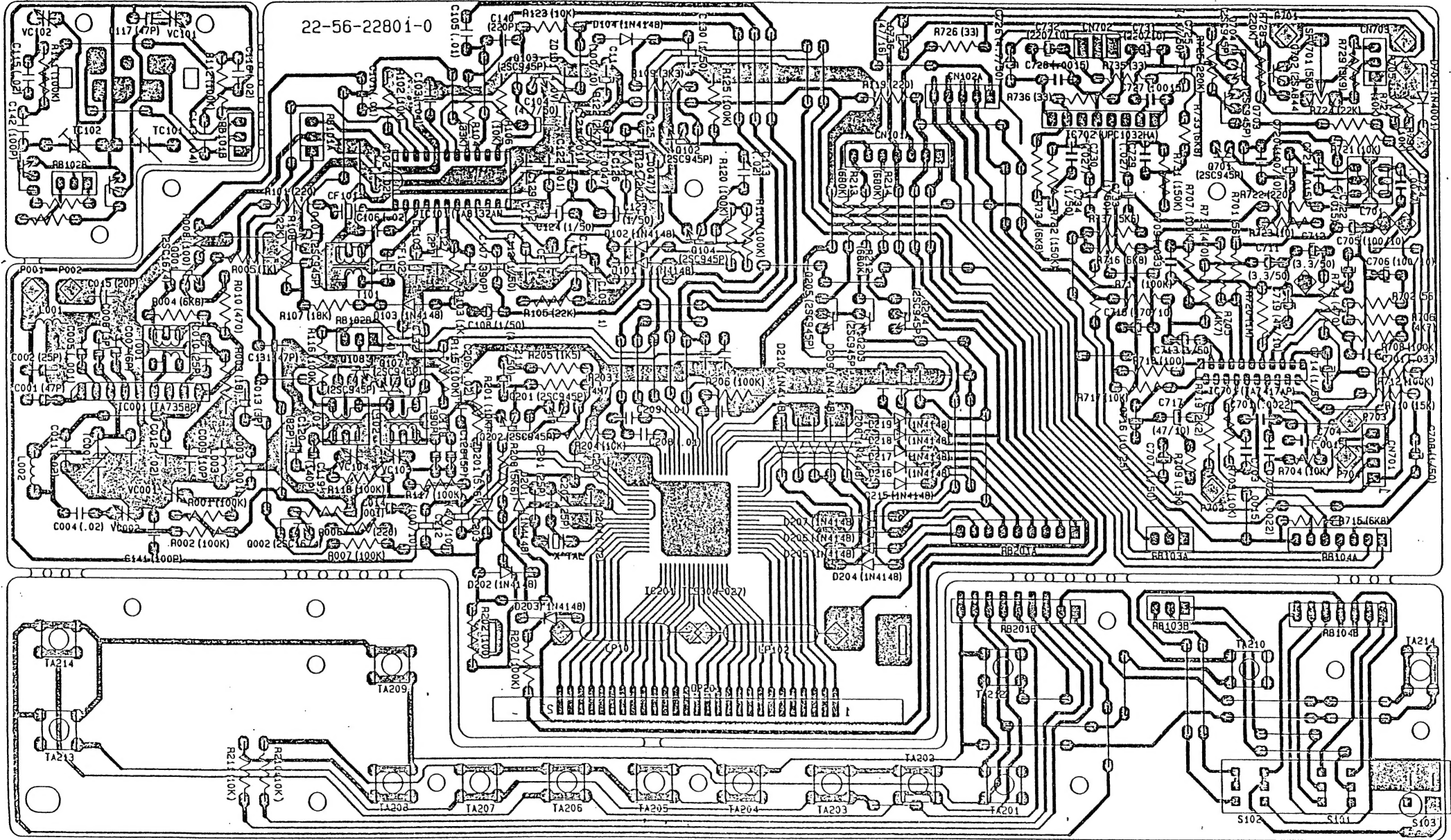




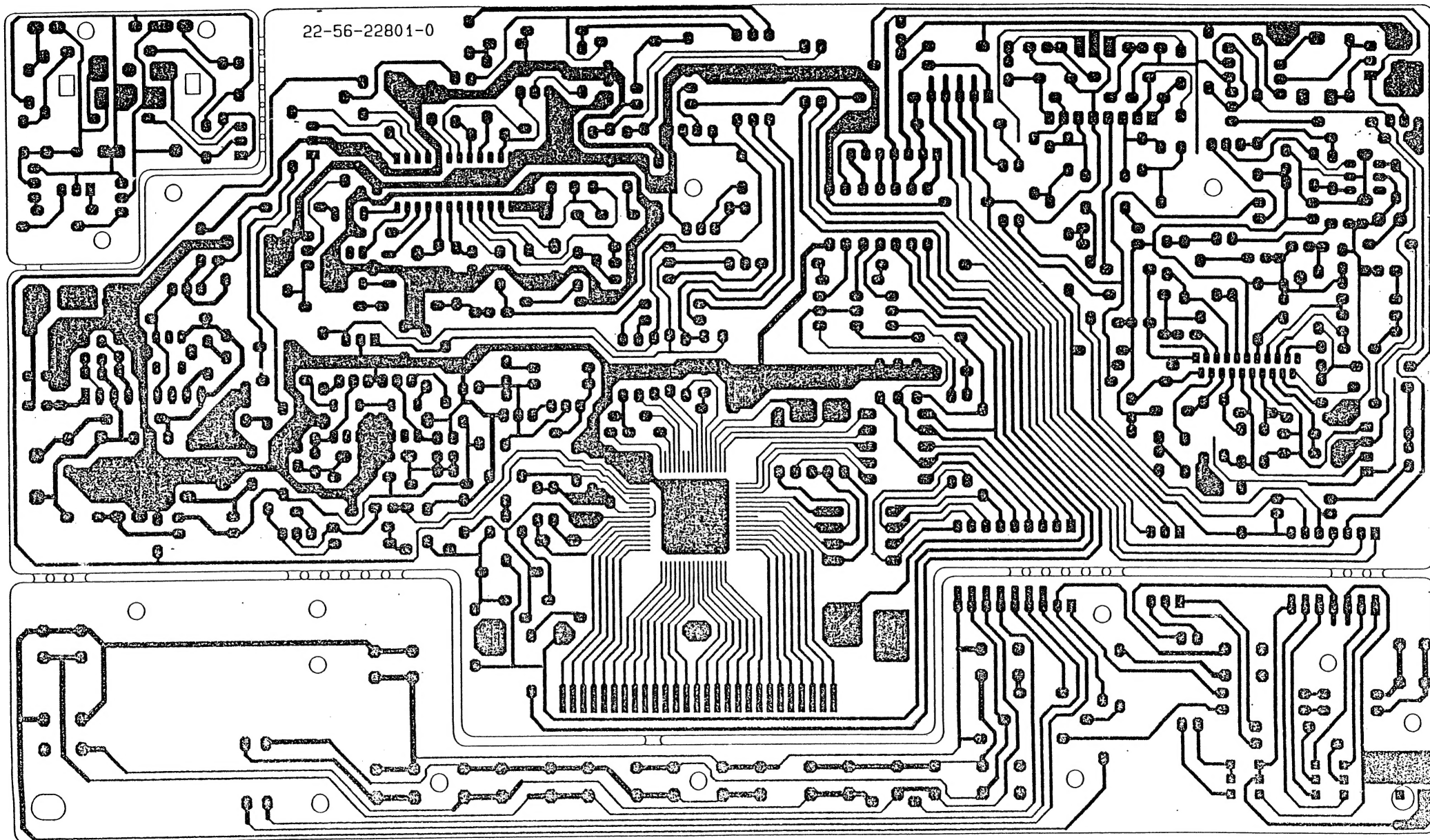
22-56-22802-0

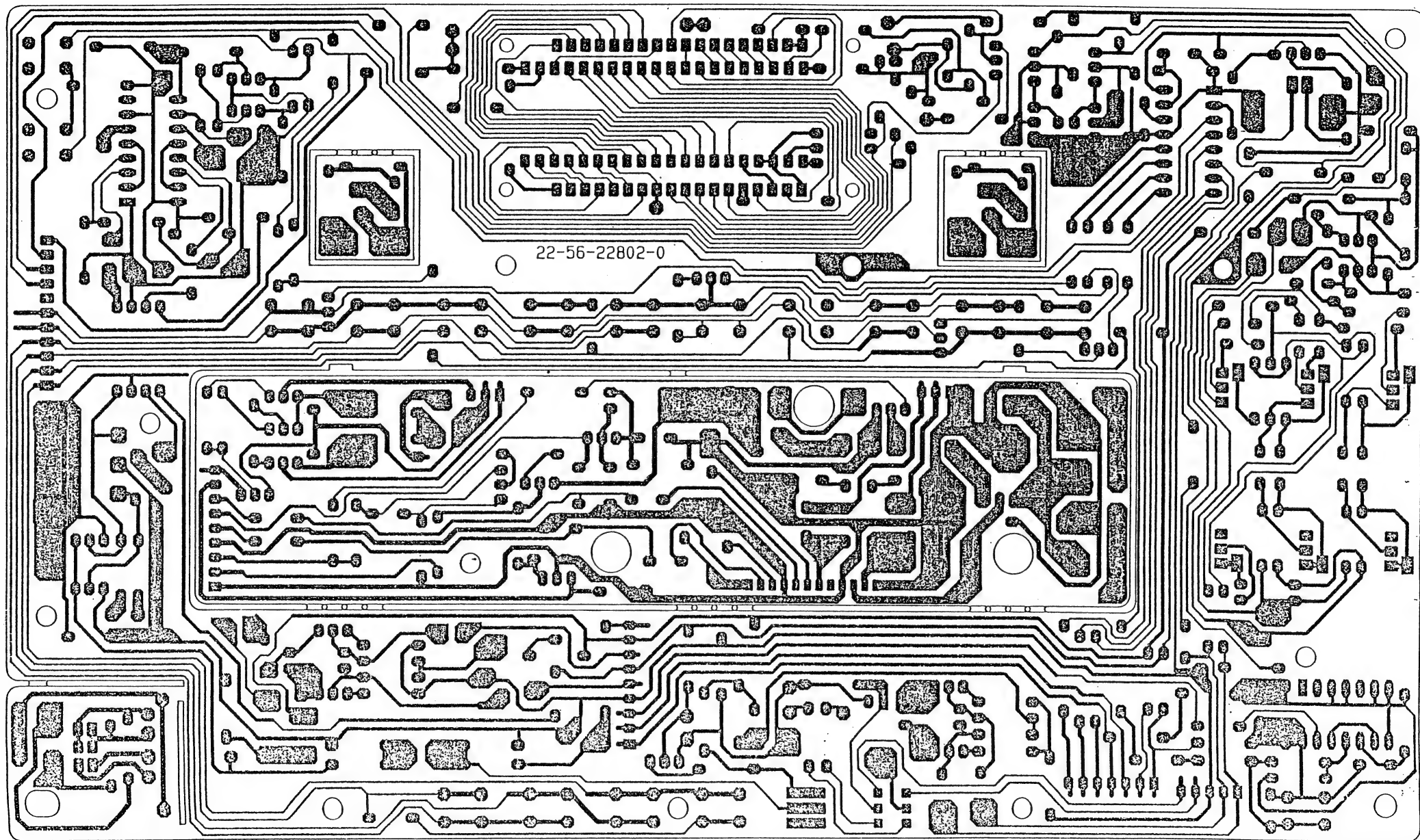


22-56-22801-0

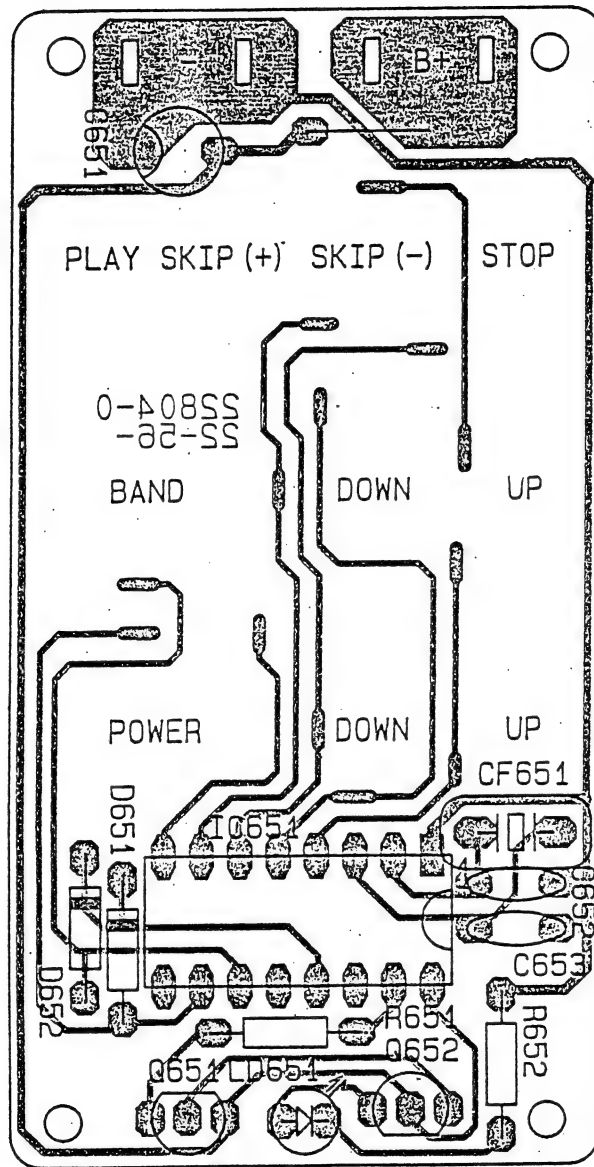


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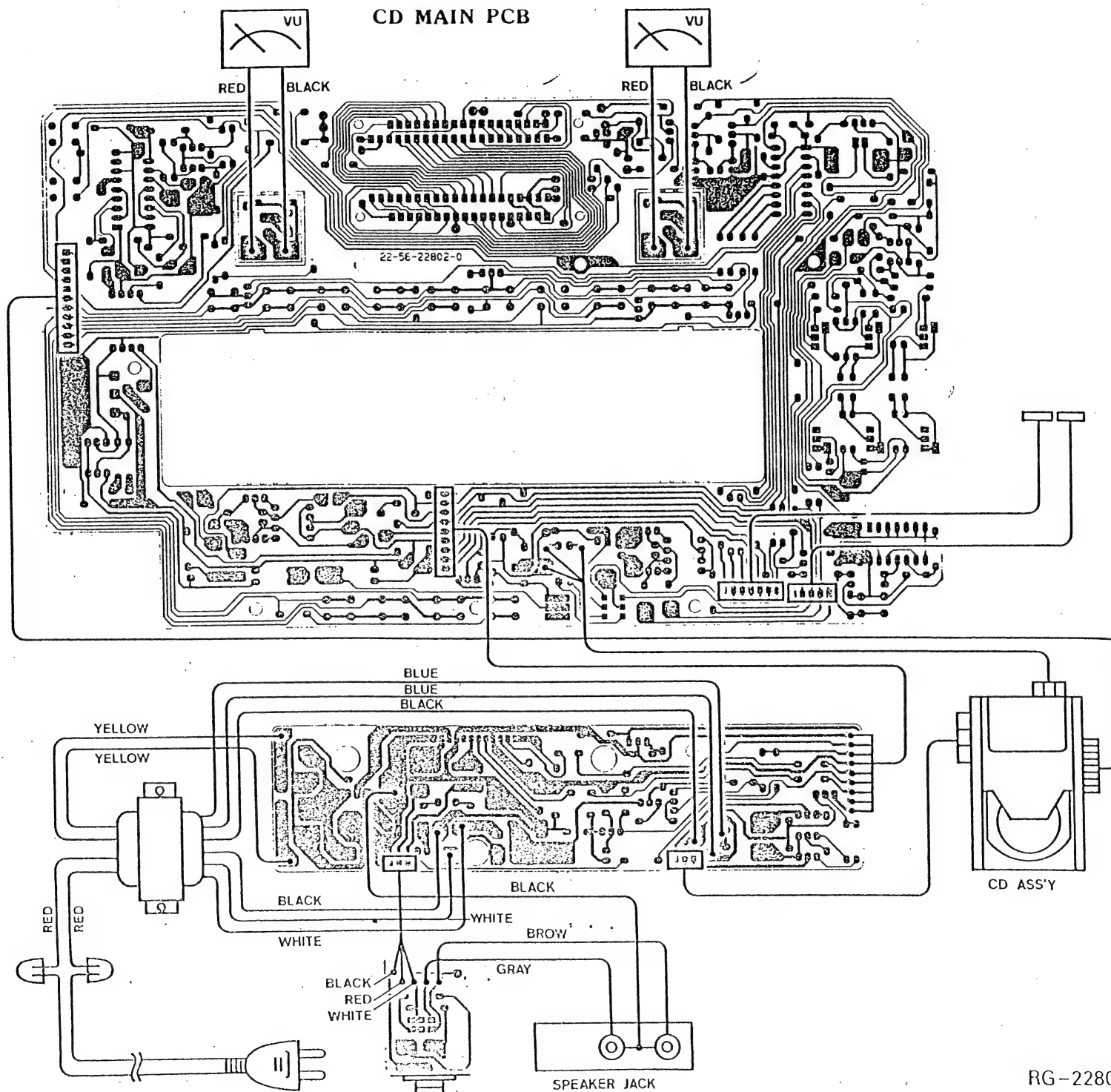




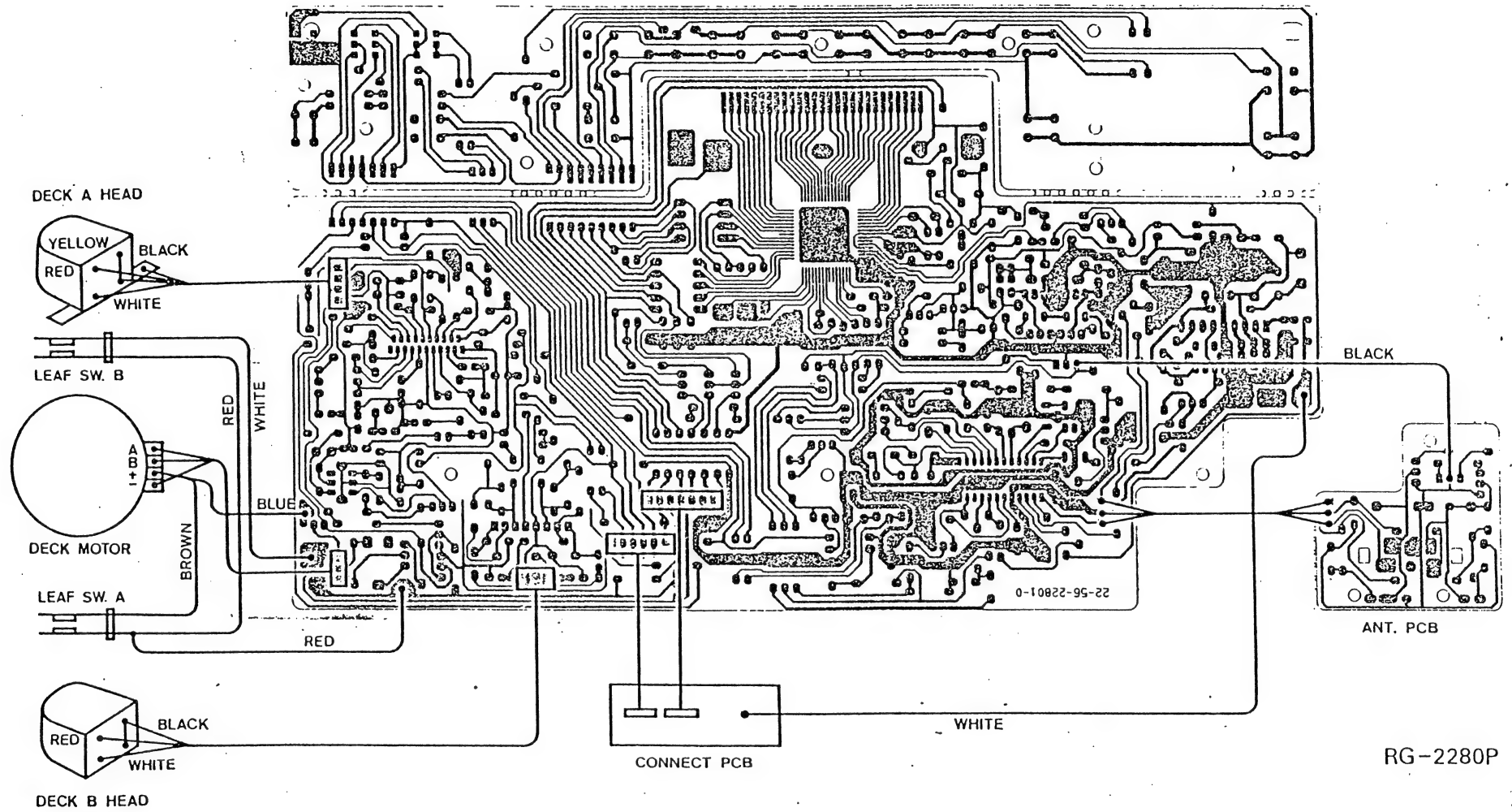


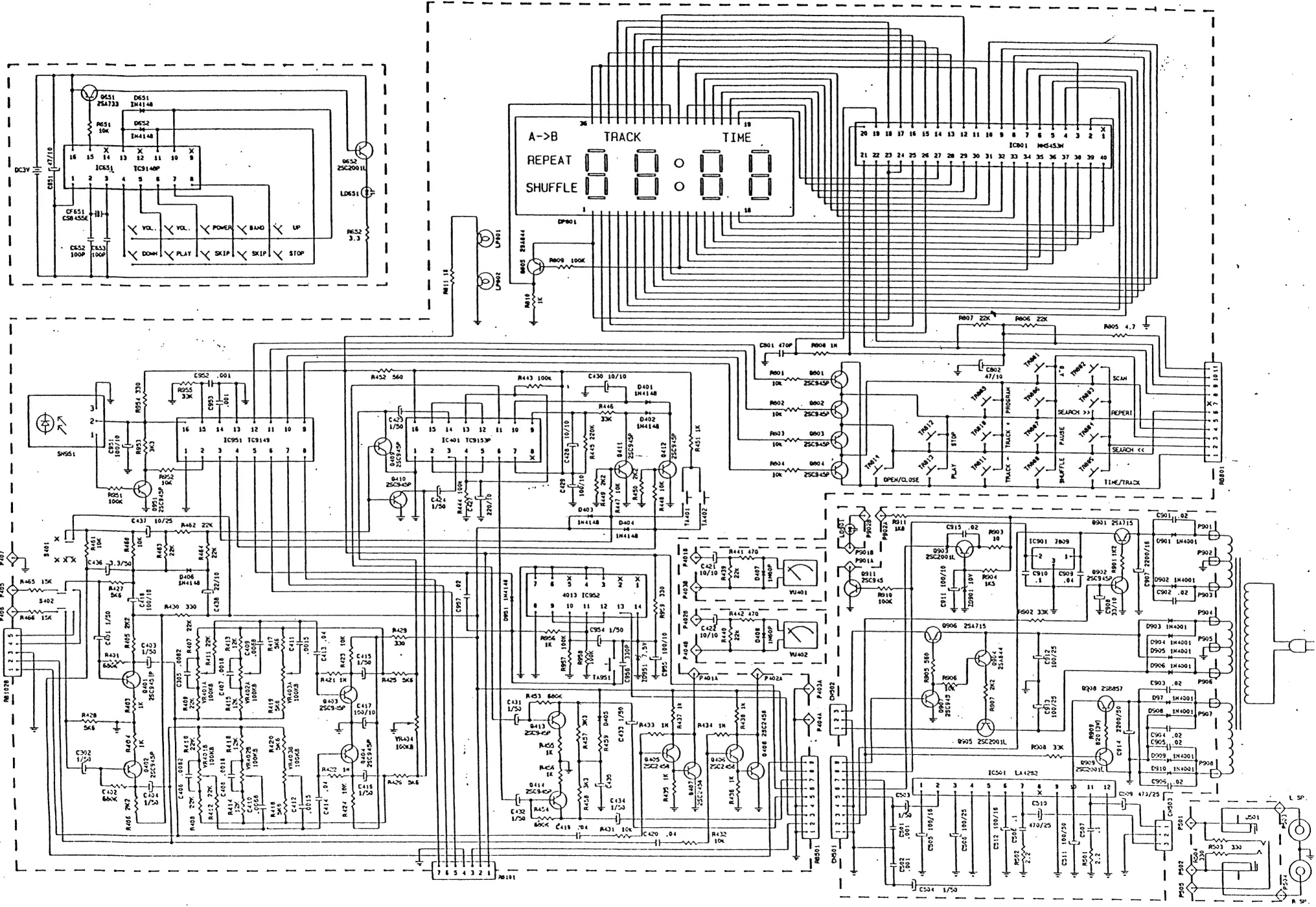


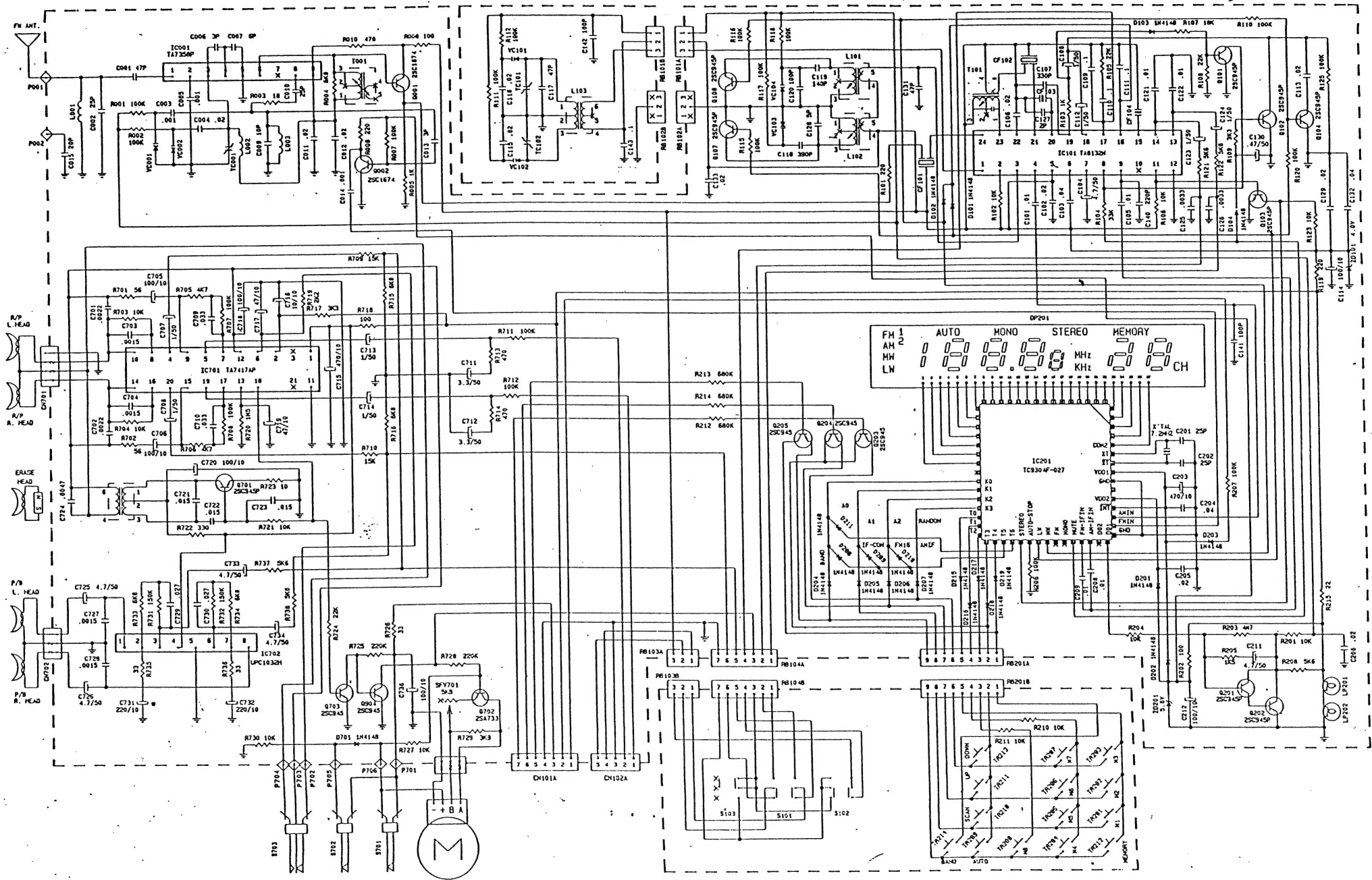




# TUNER MAIN PCB

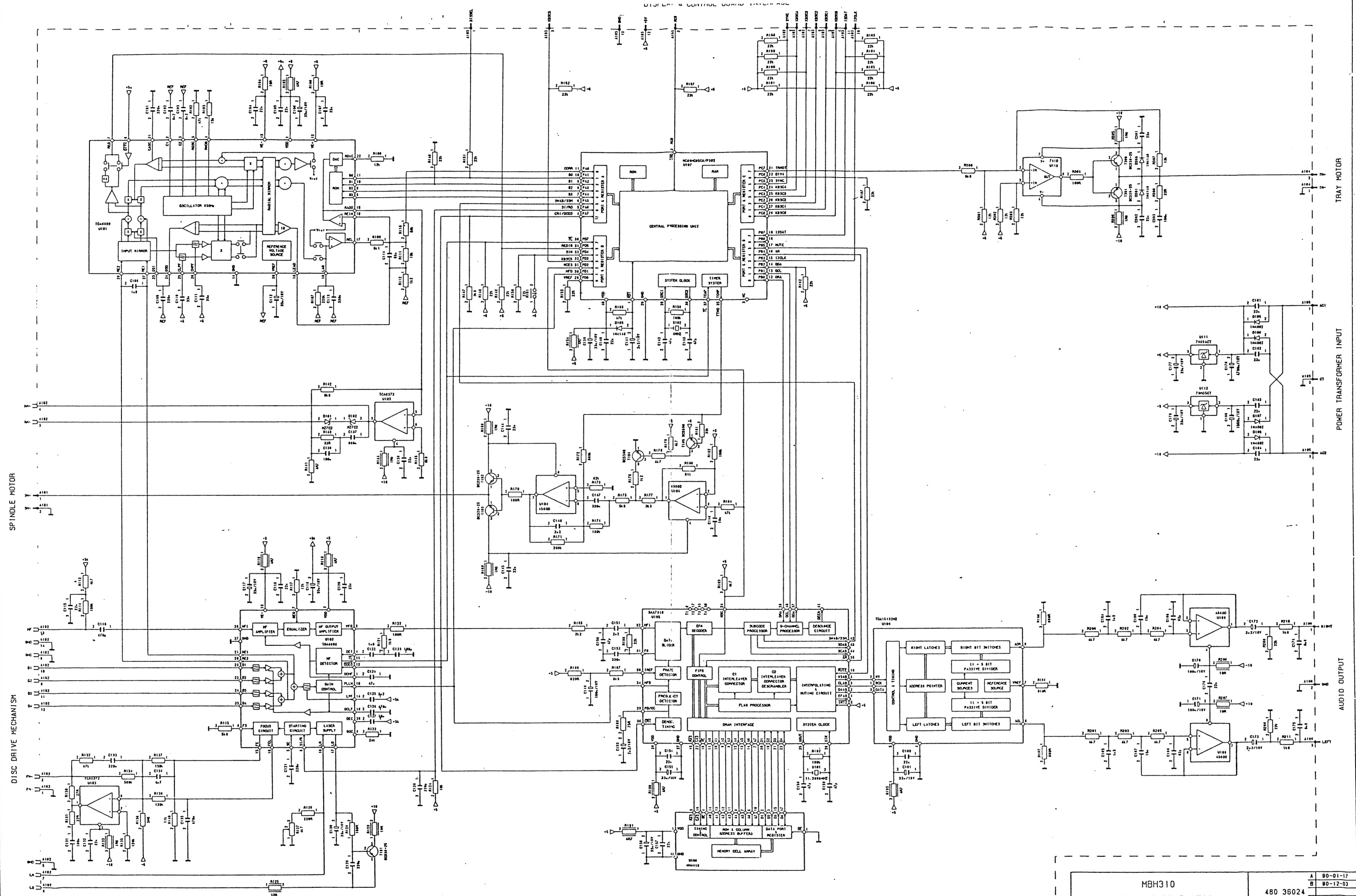












|                     |                                   |            |             |
|---------------------|-----------------------------------|------------|-------------|
| MBH310              |                                   | A 80-01-17 |             |
| MONOBOARD SCHEMATIC |                                   | B 80-12-93 |             |
| DANNY TIMMERMANS    | DATE 90-01-08                     | SHEET 30   | PAGE 1 OF 1 |
| PCDT-D&E            | PHILIPS COMPACT DISC TECHNOLOGIES |            |             |